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Abstracts of Short Communications and Posters

Section:

2. Algebra

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Montgomery, M. Susan, University of Southern California
Prime Ideals in Hopf Galois Extensions
Let H be a finite-dimensional Hopf algebra over a field k, and R and A k-algebras such that A is a faithfully flat H-Galois extension of R. For example, A itself can be a Hopf algebra, R a normal Hopf subalgebra of A of finite index, and H the quotient Hopf algebra; this situation can arise in quantum groups when the deformation parameter is a root of 1.
In joint work with H. -J. Schneider (München), we compare the prime ideals of R and A. For the classical Krull relations, our best results occur when H has a normal series whose quotients are commutative or cocommutative; these results extend earlier work on group actions and group gradings.